5 GUI Overview

The Graphical User Interface for EnSight 6 has been completely redesigned from that used with previous versions. The goal of the redesign effort has been to make EnSight both easy to learn and easy to use. Towards the first goal, as much functionality as possible has been brought up to the “top” level and made assessable through graphical “icons”. To increase its ease of use, the Icon Bars have been designed to be customizable by the user so that those icons which he or she uses most often can be made to appear in the icon bars in the optimal order.

The purpose of this Chapter is to provide a brief overview of the EnSight 6 GUI.

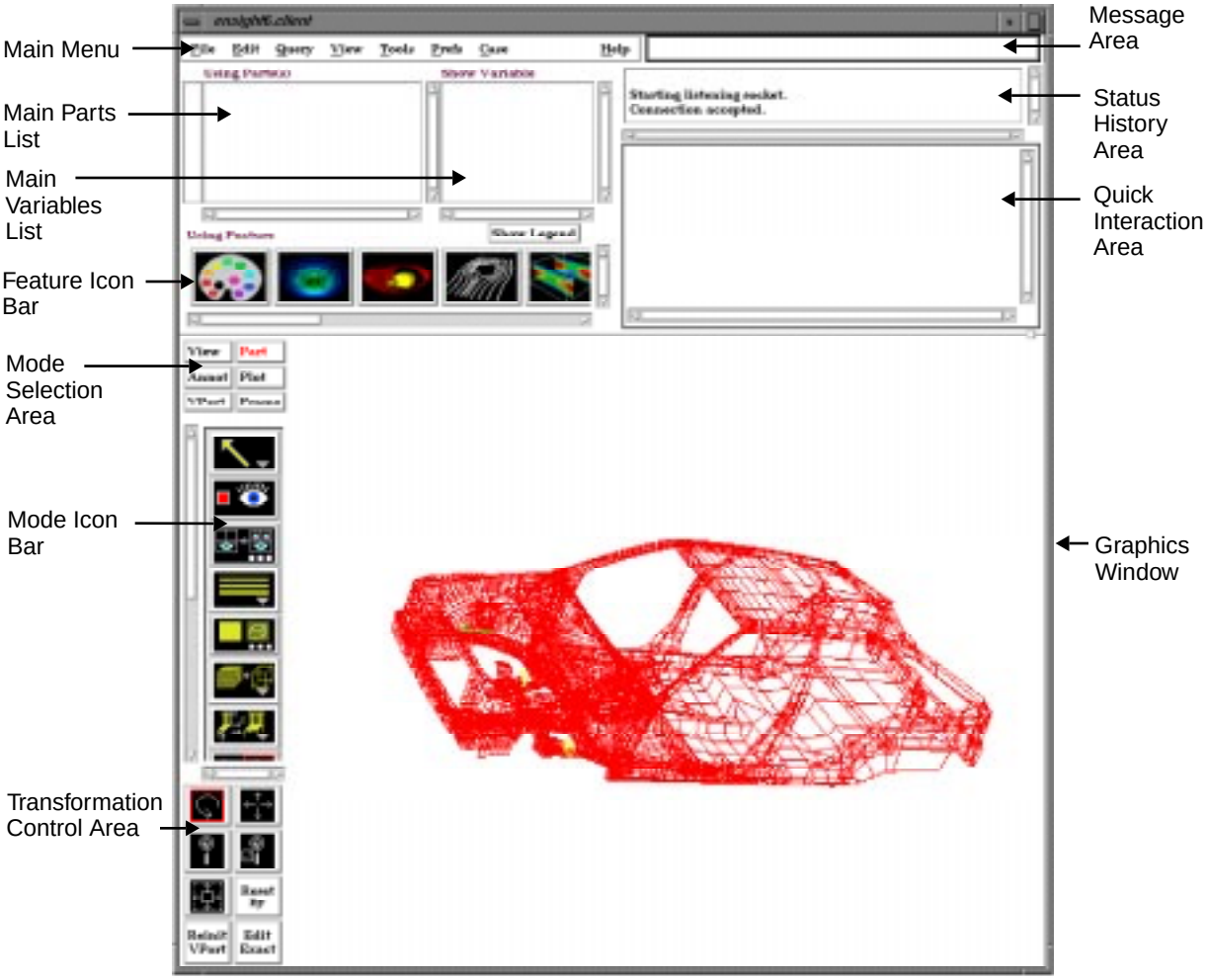


Figure 5-1
EnSight 6 Start-Up GUI

After you first started EnSight and connected the Client process to a Server process, but before you have read in any results data, the GUI appears as above. The different sections of the GUI are used for specific purposes.

Main Menu

In addition to providing access to high-level features such as Command File Creation/Editing/Reading, Results Data Reading, File Printing, Saving/Restoring a session, and Quitting, the Main Menu provides access to often-used postprocessing features such as editing, querying variable data, part appearance adjustment, and tool visibility.

Chapter 6 contains a complete description of each section of the Main Menu.
(see Chapter 6, Main Menu)

Main Parts List

The Main Parts List contains the descriptions of all parts that have been read in from your results data (model parts) or created within EnSight (created parts). Displayed are a part number, a part symbol, a case number, and a part description.

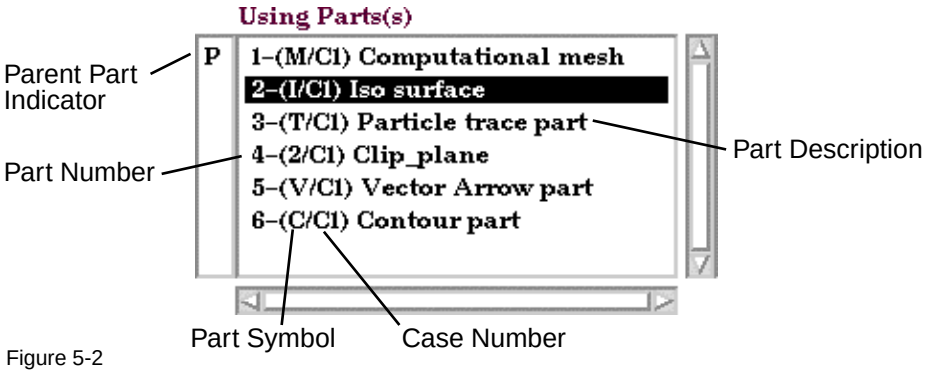


Figure 5-2
Main Parts List

You will find sub-sets of this Main Parts List in the Feature Detail Editor for each type of part. For example, the Feature Detail Editor (Isosurface) will contain a parts list of only isosurface parts.

For a complete description of the Main Parts List as well as a detailed discussion about Part selection, editing, and operations thereon:
(see Section 3.1, Part Overview)

Main Variables List

The Main Variables List contains the descriptions of all variables that have been read in from your results data or created within EnSight.

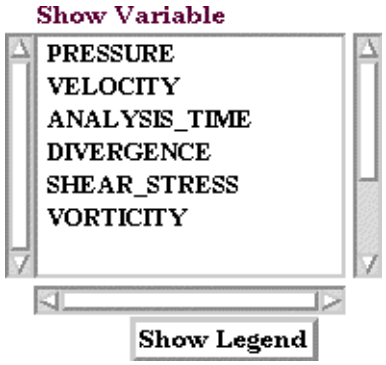


Figure 5-3
Main Variables List

If there are one or more variables defined at the element centers, an “E” or a “N” indicating Elemental or Nodal variable definition will also appear in the Main Variables List next to each variable description.

Clicking the Show Legend button will make the legend for the selected variable(s) visible in the Graphics Window. If a vector variable(s) is (are) selected, a pop-up dialog will permit a legend display choice of Magnitude or X, Y, or Z components.

For details on the selection, activation, editing, and creation of variables:
(see Chapter 4, Variables)

Feature Icon Bar

This Icon Bar provides rapid access to color assignment, new part creation, part displacement, 2D plot creation, data querying, time step control, flipbook animation and keyframe animation. Clicking once on an icon opens its associated editor in the Quick Interaction Area.

Double clicking on the Color icon will open the Feature Detail Editor for Variables. Double clicking on a new part creation Icon (contours, isosurfaces, particle traces, clips, vector arrows, elevated surfaces, profiles, developed surfaces) will open the Feature Detail Editor for that type of created part.

Chapter 7 contains a detailed explanation of the features in the Quick Interaction Area which are available through each of the Icons.
(see Chapter 7, Features)

Mode Selection Area

The Mode Selection Area contains six buttons which allow you to choose which of the six “Modes” you wish to work. The Mode selected will not only determine which icons you see in the Mode Icon Bar but also the way in which you work within the Graphics Window, The six Modes are:

- **View Mode** for the specification of how you wish to “view” parts and their labels
- **Annot Mode** for the addition and editing of annotation lines, text, and logos to the Graphics window as well as the editing of Variable legends
- **VPort Mode** for the creation and control of additional viewports within the Graphics Window
- **Part Mode** for the specification of attributes for specific parts
- **Plot Mode** for the creation and specification of attributes for 2D Variable plots
- **Frame Mode** for the creation and specification of attributes for additional frames of reference within EnSight

Chapter 8 contains a detailed explanation of the features available and the differences between the six modes.
(see Chapter 8, Modes)

Mode Icon Bar

The vast majority of editing features available in EnSight are divided into six different groups and are accessible through the Mode Icon Bar. The set of Icons you see at any time are determined by which Mode has been selected in the Mode Selection Area.

‘

The various Mode Icon Bars can be customized by the user:

(see Section 6.6, Prefs Menu Functions)

Chapter 8 contains a detailed explanation of the features available and the differences between the six modes.
(see Chapter 8, Modes)

Transformation Area	This area determines how you will transform Parts within the Graphics Window and also provides quick access to the Transformations Editor for precise control of transformations. Chapter 9 contains a detailed description of the features in the Transformation Area. (see Chapter 9, Transformation Control)
Message Area	This area provides feedback on what EnSight is doing. If you are using Transient data, this area will indicate which time step is currently in use.
Status History Area	This area will display any output that EnSight generates.
Quick Interaction Area	This area provides quick access to the features associated with each of the Icons in the Feature Icon Bar. Chapter 7 contains a detailed explanation of the features in the Quick Interaction Area which are available through each of the Icons. (see Chapter 7, Features)
Graphics Window	This area shows the model using the current display attributes. You perform all interactive transformations in the Graphics Window.

GUI Conventions

The EnSight graphical user interface (GUI) uses the OSF/Motif toolkit for menus, dialogs, buttons, and other interface components. This section provides Motif specific information, as well as a quick introduction to some of the features of EnSight interface components.

Motif Window Manager

The Motif Window Manager (mwm) is commonly used on workstations supporting Motif. Its use is recommended with EnSight. Although not required, the following values for mwm resources are strongly recommended:

```
Mwm*focusAutoRaise: false
Mwm*keyboardFocusPolicy: pointer
```

Without the first setting, windows may raise automatically when the mouse is moved into a window (which is very distracting). The second setting causes windows to be active (accept input) when the cursor is in the window, even if the window is partially obscured or has not been selected. These and other mwm resources are set in the appropriate X session resource file. See a local X Windows expert if you don't know where this file resides. See the references at the end of this chapter for more information on Motif, mwm, and X Windows.

NOTE: *The resources above prefixed with Mwm are specific to the Motif Window Manager. If you are using a different window manager consult your Systems Administrator for the equivalent settings. For instance, EnSight has been tested and performs as described herein on the 4Dwm and CDE window managers.*

Interface Components

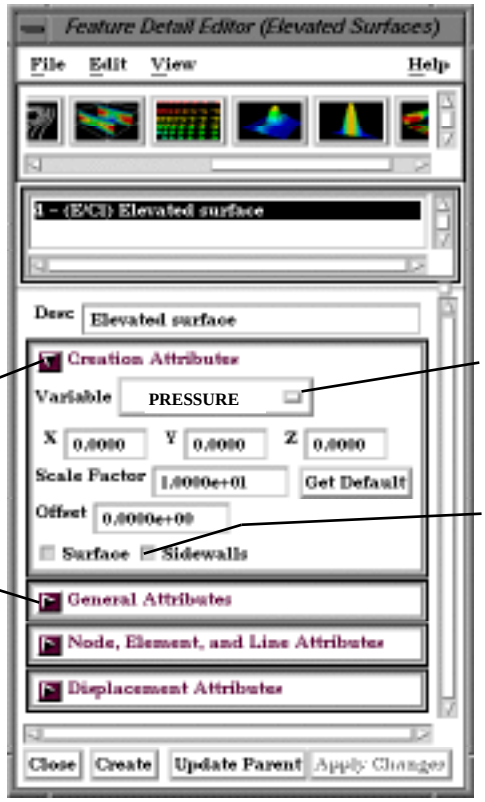
The EnSight GUI uses menus and dialogs that utilize and expand upon established OSF/Motif conventions. This section provides some general information on the operation of EnSight dialogs, menus, lists, buttons, and text fields.

Dialogs

A dialog is a window that groups interface components based on function. Dialogs are typically opened by making selections from a menu. Menu selections that open dialogs always end with "...". Most EnSight dialogs can be opened and closed independently. In order to optimize scarce workstation screen real estate, you should close dialogs that are not in use.

Dialogs typically consist of buttons, menus, lists, and areas to type in. Many EnSight dialogs also have expandable sections that let you hide parts of the interface that you use infrequently. Each expandable section consists of an indicator button, a section title, and the contents of the section. The indicator button and the section title are always visible. If the section is open, the contents

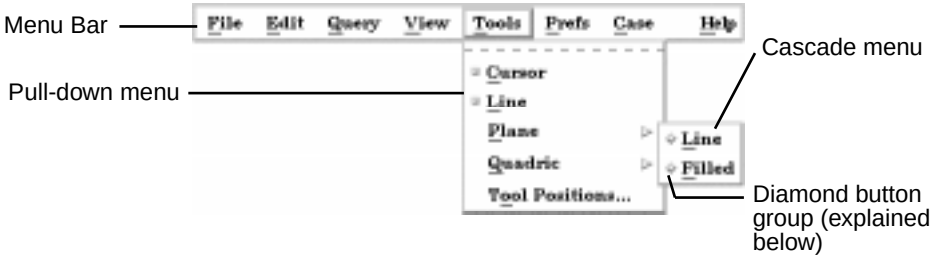
are visible as well.



The indicator button is a toggle switch for opening and closing the section. A down pointing arrow button indicates an open section. Clicking the arrow will close the section. A right pointing arrow indicates a closed section. Clicking the arrow will open the section. These indicators are referred to as turndown buttons.

Menus

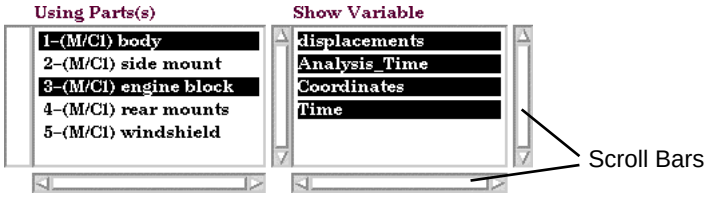
The EnSight documentation uses the following terms to describe various types of menus.



Menu Bar	A horizontal strip across the top of some dialogs listing menu titles.
Pull-down menu	A pull-down menu is one accessed directly from a menu bar.
Cascade menu or submenu	A submenu is accessed from another menu selection. Submenu selections are indicated by a right-pointing arrow.
Pop-up menu	A pop-up menu is accessed by pressing the associated rectangular button. The current selection from the menu always appears as the button title. (An example is the rectangular button labeled “PRESSURE” beside the word Variable shown above in the Feature Detail Editor.)

Lists

EnSight provides access to the list of Model and Created Parts as well as Original and Created Variables through the Main Parts List and the Main Variables List as well as the sub-lists available in the various Feature Detail Editors. These lists are presented as scrollable sections. Various mechanisms are used to select items from a list for further action:



Select (or single-click)	Place the mouse cursor over the item and click the left mouse button. The item is highlighted to reflect the “selected” state.
Select-drag	Place the mouse cursor over the first item. Click and hold the left mouse button as you drag over the remaining items to be selected. Only contiguous items may be selected in this fashion.
Shift-click	Place the mouse cursor over the item. Depress the shift key and click the left mouse button. This action will extend a selection to include all those items sequentially listed between the previous selection and this one.
Control-click	Place the mouse cursor over the item. Depress the control key and click the left mouse button. This action will extend a selection by adding the new item, but not those in-between. Use this mechanism to build a non-contiguous selection.
Double-click	Place the mouse cursor over the item and click the left mouse button twice in rapid succession.

Buttons

EnSight uses the following kinds of buttons:

Rectangular	Place the mouse cursor in the button area and click the left mouse button. Rectangular buttons typically access the function described in the label. If the label is followed by “...” then the button opens another dialog. (Example shown above.)
Arrow	Place the mouse cursor in the button area and click the left mouse button. Arrow buttons typically have an associated text field. Clicking the button increments or decrements the text field value. (Example shown above.)
Diamond	Place the mouse cursor in the button area and click the left mouse button. Diamond buttons (also called radio buttons) are toggles that select an item from a mutually exclusive list. Exactly one diamond button of a group can be on at any given time. (Example shown above.)

Square	Place the mouse cursor in the button area and click the left mouse button. Square buttons are toggles that access the function indicated by the label (Example shown above.).

Text Fields

EnSight utilizes three types of text fields:

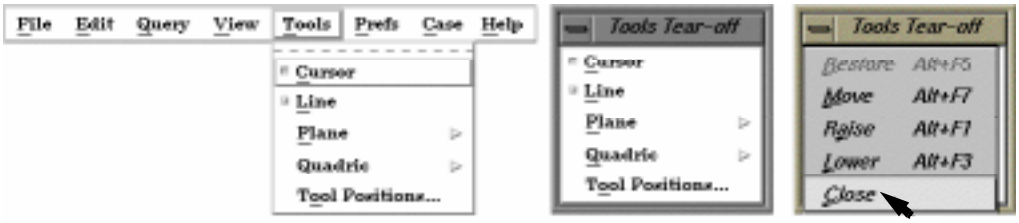
Information Text Fields	These text fields are used to report information and cannot be edited by the user. Information text fields are surrounded with a single pixel border.
Editable Text Fields	Place the mouse cursor in the text field and click to insert a blinking insertion cursor. Several techniques are available to accelerate text editing. Select a single word by double-clicking or the entire string by triple-clicking. Selected text is replaced by subsequent typing. The left and right arrow keys (on most systems) will move the insertion cursor. EnSight does not recognize the change in the text field until you press Return.

Where appropriate, EnSight recognizes the following shortcut specifications for UNIX directories:

`~/`	Expands to your home directory
`~username/`	Expands to the home directory of `username`
`./`	Expands to the current working directory
`../`	Expands to the parent directory of the current working directory

Tear-Off Menus

If your window system allows it, the EnSight user interface supports “tear-off” menus. Judicious use of tear-off menus can provide custom, rapid access to frequently used functions. To use tear-off menus:



Select (or single-click)	Place the mouse cursor over a pulldown menu button, then click and release the left mouse button. This operation will open the pulldown menu.
Tear off	Move the mouse cursor to the dotted lines on the menu, and again click and release the left mouse button. This will “tear off” the pulldown into a separate window which can be placed anywhere on the screen.
Closing a tear-off	A tear-off menu can be closed by selecting Close from the tear-off window’s frame menu which is accessed clicking on the button in the upper left of the dialog frame.
Dialog Control	The window manager will normally allow you to control some basic functions (Restore, Move, Raise, Lower, Close) by clicking-holding the right mouse button on a dialog or window border.

References

The following books provide more information on various aspects of OSF/Motif, X Windows and the Motif Window Manager.

Kobara, Shiz, Visual Design with OSF/Motif, Addison-Wesley Publishing Co., Reading, MA, 1991.

Berlage, Thomas, OSF/Motif: Concepts and Programming, Addison-Wesley Publishing Co., Wokingham, England, 1991.

Heller, Dan, Motif Programming Manual (for OSF/Motif Version 1.1), X Window System, Vol. 6, O’Reilly & Associates, Inc., 1991.

Open Software Foundation, OSF/Motif Programmer’s Guide, Revision 1.2, and OSF/Motif Programmer’s Reference Revision 1.2, P T R Prentice-Hall, Inc., Englewood Cliffs, NJ, 1993.

Quercia, Valerie and O’Reilly, Tim, “Appendix C: The OSF/Motif Window Manager,” in X Window System User’s Guide (Volume Three) O’Reilly & Associates, Inc., Sebastopol, CA, 1990.